Claims

1. A method for controlling combustion in a combustion chamber of a combustion engine, comprising:
- receiving (s53) a measured air-to-fuel ratio value,
- receiving (s55) at least one estimated air-to-fuel ratio value, said air-to-fuel ratio estimate being generated in dependence of a predetermined fuel deposit factor,
- establishing a fuel volatility value in dependence of said measured air-to-fuel ratio value and said air-to-fuel ratio estimate, and
- controlling combustion in dependence of said fuel volatility value.

2. A method according to claim 1, wherein said measured air-to-fuel ratio value is compared to said air-to-fuel ratio estimate and said fuel volatility value is generated in dependence of said comparison.

3. A method according to claim 1, wherein said fuel volatility value is generated in dependence of said measured air-to-fuel ratio value and a plurality of air-to-fuel ratio estimates.

4. A method according to claim 3, wherein said plurality of air-to-fuel ratio estimates are of mutually different values.

5. A method according to claims 1, wherein said at least one air-to-fuel ratio estimate is generated in dependence of a predetermined fuel deposit factor (X_i) and at least one detected engine parameter value (M_f, M_a).

6. A method according to claim 4, wherein said plurality of mutually different air-to-fuel ratio estimates are generated in dependence of the same detected engine parameter value (M_f, M_a) and mutually different predetermined fuel deposit factor (X_i).

7. A method according to claim 1, wherein said measured air-to-fuel ratio value is delivered by an air-to-fuel ratio sensor (210, 11c) positioned to detect an actual air-to-fuel ratio in an exhaust manifold (225a).

8. A system for controlling combustion in a combustion chamber of a combustion engine, comprising:
- first means (335) for receiving a measured air-to-fuel ratio value (λ_{meas}),
- second means (P1, P2...PN) for receiving at least one air-to-fuel ratio estimate ($\lambda_1, \lambda_2 ... \lambda_N$), said air-to-fuel ratio estimate being generated in dependence of a predetermined fuel deposit factor,
- third means (330, 700) for generating a fuel volatility value in dependence of said measured air-to-fuel ratio value and said air-to-fuel ratio estimate, and
- fourth means (360) for controlling combustion in dependence of said fuel volatility value.

9. A system according to claim 8, wherein said third means (330, 700) is adapted to compare said measured air-to-fuel ratio value to said air-to-fuel ratio estimate and to generate said fuel volatility value in dependence of said comparison.

10. A system according to claim 8, wherein said fuel volatility value is generated in dependence of said measured air-to-fuel ratio value and a plurality of air-to-fuel ratio estimates $(\lambda_1, \lambda_2 \ldots \lambda_N)$.

11. A system according to claim 8, wherein said plurality of air-to-fuel ratio estimates $(\lambda_1, \lambda_2 \ldots \lambda_N)$ are of mutually different values.

12. A system according to claim 8, wherein said third means (330, 700) is adapted to generate at least one air-to-fuel ratio estimate $(\lambda_1, \lambda_2 \ldots \lambda_N)$ in dependence of a predetermined fuel deposit factor (X_i) and at least one detected engine parameter value (M_f, M_a).

13. A system according to claim 8, wherein said third means (330, 700) is adapted to generate a plurality of mutually different air-to-fuel ratio estimates $(\lambda_1, \lambda_2 \ldots \lambda_N)$ in dependence of the same detected engine parameter value (M_f, M_a) and mutually different predetermined fuel deposit factor (X_i).

14. A system according to claim 8, wherein said air-to-fuel ratio sensor (210, 11) is positioned to detect an actual air-to-fuel ratio value in an exhaust pipe (228) and adapted to deliver said measured air-to-fuel ratio value (λ_{meas}).

15. A computer program for causing a computerized apparatus (8; 700) to improve combustion in a combustion chamber of a combustion engine, comprising:

a computer readable code means which, when run on a computerized apparatus (8, 700), causes the computerized apparatus (8; 700) to:

receive (s53) a measured air-to-fuel ratio value,

receive (s55) at least one estimated air-to-fuel ratio

value, said air-to-fuel ratio estimate being generated in dependence of a predetermined fuel deposit factor,

establish a fuel volatility value in dependence of said measured air-to-fuel ratio value and said air-to-fuel ratio estimate, and

control combustion in dependence of said fuel volatility value.